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UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL RESEARCH ADMINISTRATION  
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE  
WASHINGTON 25, D. C.

In Cooperation with State and Federal Agencies

COTTON INSECT CONDITIONS FOR WEEK ENDING JULY 28, 1945  
(Fourteenth Cotton Insect Survey Report for 1945)

The effects of several weeks of favorable conditions for boll weevils are shown in the general increase in punctured squares this week. Ample moisture in most sections has caused rank growth of plants but boll weevils and other insects have taken and will continue to take a heavy toll of squares unless controlled. Bolls are soft and sappy and will be subject to weevil damage for a longer period than normally. Dusting with calcium arsenate usually pays larger dividends in wet than in dry years, despite the difficulties of having applications washed off by rains.

Leafworms spread very rapidly. New infestations were reported from Hidalgo, Jim Wells, Refugio, Calhoun, Wharton, Fort Bend, Burleson, Kauffman, and Presidio Counties of Texas. Defoliation occurred in new fields in Cameron and light damage in spotted fields in Hidalgo County. Poisoning was also being used in new fields in Nueces County. With leafworms present in northeastern and southwestern Texas, outbreaks may be expected in other sections and in other states at any time.

Bollworms continue to increase throughout Texas and are causing serious damage to irrigated cotton in the Presidio and Pecos Valleys. Damaging infestations are also developing in the Blacklands area.

Supplies of calcium arsenate appear ample but as the local stocks in hands of farmers and dealers are used up difficulties in transportation may cause serious delay in deliveries unless future needs are anticipated and orders placed immediately.

BOLL WEEVIL

TEXAS: Hot, dry weather during the first part of the week was favorable to cotton but scattered showers during the latter part of the week and rank growth of plants were favorable for weevil increases in some areas of central, northern and eastern Texas. The use of insecticides is increasing in many localities. It is estimated that 88 percent of the cotton is harvested in the Lower Valley and picking is active to the limit of available pickers in the Coastal Bend area and is getting underway in adjacent south central counties.

The boll weevil infestation in 528 fields in 65 counties examined this week averaged 38% infestation, or a weighted average for the State of 31%. This is an average increase of 5% in infested squares during the week. Five percent of the fields were not infested; 18% ranged from 1 to 10% infestation; 20% of the fields from 11 to 25% infestation; 24% of the fields from 26 to 50% infestation; and 33% of the fields above 50% infestation. In 7 southeastern counties the average infestation was 68%; in 13 south central counties, 41%; in 13 east Texas counties, 58%; in 20 Blackland counties, 33%; in 4 Cross-timber counties, 32%; and in 7 Rolling Plains counties, 6%.

(Over)



OKLAHOMA: Light to heavy rains over much of the heavy boll weevil infested area of the State during the latter part of the week were favorable for the development of weevil grubs in fallen squares. Adult weevils are now emerging in large numbers and an increase in punctured squares may be expected.

The average infestation in 229 fields examined in 30 counties was 25% and the weighted average for the State 21% this week. Five percent of the fields were not infested; 27% ranged from 1 to 10%; 26% from 11 to 25%; 29% of the fields from 26 to 50%; and 13% of the fields above 50% infestation. There was a slight decline in infestation in some of the western counties due to rapid fruiting and the interval between over-wintering and first 1945 broods of weevils. However, heavy infestations occur well up into the northern counties.

LOUISIANA: Weather conditions during the week and to August 1 were very favorable for weevil development. Dusting is now general in northeastern Louisiana. Ample supplies of calcium arsenate are on hand.

Examination of 278 fields averaged 30% infested squares in comparison to 28% last week. Only 3% of the fields were not infested; 14% of the fields ranged from 1 to 10%; 36% of the fields from 11 to 25%; 28% of the fields from 26 to 50%; and 19% of the fields above 50% infestation.

ARKANSAS: General rains during the week were favorable for weevil increase. The square infestation in 172 fields examined in the southern third of the State averaged 16% as compared to 14% last week. The infestation in 87 fields in the central and east central sections of the State averaged about 2%, though some of these fields need control. The average infestation for all fields examined was 11%. Thirty-three percent of the fields were not infested; 30% of the fields ranged from 1 to 10%; 24% of the fields from 11 to 25%; and 13% of the fields above 25% infestation. The heaviest infestations were from the south central district.

MISSISSIPPI: Continuous rainy and cloudy weather during the week caused weevil infestation to increase rapidly. Of the 238 fields examined in 31 counties, 190 were infested, with an average of 17% punctured squares for all fields and 22% for the infested fields. Dusting was needed on 29% of the fields examined as compared to 21% requiring control last week.

Heavy rains in the central and lower Delta counties and light rains in northern counties made conditions ideal for weevils. Infested squares were found in 111 of the 149 fields in 13 Delta counties. The average infestation was 18% for all Delta fields and 24% for the infested fields. No infestation was found in 27% of the fields; from 1 to 10% in 30% of the fields; from 11 to 25% in 16% of the fields; from 26 to 50% in 16% of the fields; and above 50% in 11% of the fields. Although dusting was needed in many Delta fields, growers are waiting until the weather clears to begin.

On one large plantation in Bolivar County, not included in the above figures, the infestation and numbers of adult weevils increased rapidly during the week and dusting was started with ground machines.

GEORGIA: Weevil migration is beginning in southern counties and damage to bolls is increasing. Cotton in the northeastern counties is blooming well but has set few bolls as yet, while in the extreme northwestern fields blooming is just getting well started. This spread in the maturity of cotton makes conditions favorable for infestations to build up rapidly in the northern counties and dusting should begin now to protect squares. Protection for bolls is also needed in the southern counties.

The infestation in the 263 fields examined in 83 counties this week averaged 37.6% as compared to 32.6% last week. Only two fields were found not infested. The average infestation in 30 fields in the southeastern section of the State was 33%; in 119 fields in the southwestern section 37%; in 84 fields in the northeastern section 21%; in 30 fields in the northwestern section 31%.

SOUTH CAROLINA: Cloudy weather with frequent rains and moderate temperatures prevailed this week. All sections of the State now have sufficient moisture and some areas too much. Cotton in the Piedmont is approaching the peak of fruiting but weevils are taking a heavy toll. The heavy weevil populations, rank growth of plants and soft bolls from abundant moisture all indicate severe losses from weevils unless control measures are used. Early cotton is beginning to open in southern counties but dusting for boll protection is still needed.

All but 4 of the 290 fields in 38 counties examined this week were infested. The average percentage of infested squares increased from 24% last week to 34% this week. The infestation was above the danger point of 10% in 95% of the fields examined. Very little control is being used and the present prospects are for a repetition of the severe damage of 1941.

NORTH CAROLINA: There were several days of showery weather during the week.

Examinations in 131 fields in 22 counties averaged 6% infestation. Although the infestation is increasing in some of the south central and eastern counties, the average was the same as last week because most of the fields examined this week were in the southwestern cotton counties where the infestations are still very low. No punctured squares were found in 28% of the fields examined; from 1 to 10% in 46% of the fields; and above 10% in 26% of the fields examined.

VIRGINIA: Heavy rains during the last two days of the week. The one field near Holland examined by Dr. Grayson had 2% weevil infested squares.

#### COTTON FLEA HOPPER

TEXAS: An increase in the average number of flea hoppers was noted this week. Examinations in 511 fields averaged 8.6 flea hoppers per 100 terminal buds in comparison to 7.6 last week. No flea hoppers were found in 26% of the fields; from 1 to 10 in 49% of the fields; from 11 to 25 in 17% of the fields; and more than 25 per 100 terminal buds in 8% of the fields.

OKLAHOMA: Flea hopper populations decreased somewhat this week. The highest infestations were found in McCurtain, Choctaw, Bryan, and Pushmataha Counties in the eastern side of the State and Tillman County in the western side. The average infestation in 222 fields examined this week was 5 flea hoppers per 100 terminal buds as compared to 8.2 flea hoppers last week. No flea hoppers were found in 36% of the fields; from 1 to 10 in 42%; from 11 to 25 in 21%; and more than 25 per 100 terminal buds in only 1% of the fields.

(over)



#### OTHER PLANT BUGS

Large acreages of cotton were dusted this week in Arizona, principally by airplanes. No shortages of paris green-sulfur mixtures were reported as dealers had anticipated heavy demands from the early season Cotton Insect Survey Reports.

Salt River Valley, Arizona: Considerable rain with high winds occurred in parts of the Valley. Insect populations decreased slightly in some areas, increased notably in others, but continue generally high. In the Goodyear area sweepings averaged 21 injurious insects per 100 strokes on stub cotton and 26 on plant cotton as compared to 23 and 44, respectively, last week. In the Mesa area populations ranged from 5 to 35, with an average of about 8 per 100 strokes. In the Buckeye area the populations ranged from 15 to 120 injurious insects, principally Lygus, per 100 net strokes. In the Litchfield area untreated plots averaged 45 injurious insects per 100 net strokes.

Santa Cruz Valley, Arizona: Cotton continues to fruit rapidly and very little shedding has occurred. Not much change in insect populations and while Lygus bugs predominate, nymphs of stinkbugs are now appearing on cotton.

Pinal County, Arizona: Sweepings in 30 fields ranged from 1 to 35 injurious insects per 100 net strokes. A considerable amount of dust is being used in the county.

Graham County, Arizona: Injurious insect populations are increasing in the Safford and Solomonville areas and several growers dusted with paris green-sulfur mixture this week.

#### MISCELLANEOUS INSECTS

Garden webworm outbreaks in Mississippi, Crittenden, and Lawrence Counties in northeastern Arkansas were reported by Dr. Lincoln, Extension Entomologist. Several thousand acres are infested and while soybeans and corn are most affected, some damage is being done to cotton.

Aphid infestations on cotton are fortunately generally low but may be expected to increase following the more general use of arsenical insecticides. A heavy infestation in the Eloy district of Arizona was checked by a heavy, blowing rain but serious infestations are developing in several fields of undusted, short-staple cotton near Marana. Very few infestations requiring control and no serious losses due to shortages of aphicides have been reported to date.

Prepared August 1, 1945.

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